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09/621,645

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Robert E. Bridges

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EXAMINER

LEE, HWA S

ART UNIT

PAPER NUMBER

2886

NOTIFICATION DATE

DELIVERY MODE

12/15/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 09/621,645 | Applicant(s) BRIDGES ET AL. | |
| | Examiner Hwa S. Andrew Lee | Art Unit 2886 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gelbart et al (US 5,305,091).

Gelbart et al (Gelbart hereinafter) show an optical coordinate measuring system comprising:

a stationary portion (room 1) having at least a first laser radiation source (32)

a first optical detector (38)

a rotatable portion (3) mounted on the stationary portion (room 1), and is

rotatable with respect to the stationary portion; and

at least a first optical fiber system (33, 36) for optically interconnecting the first

laser radiation source and the first optical detector with an emission end of the

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first optical fiber system, the emission end disposed on the rotatable portion for emitting laser radiation to the remote target and for receiving laser radiation reflected from the remote target, wherein an emission direction of the laser radiation is controlled according to the rotation of the rotatable portion.

Although Gelbart does not expressly state the portion (3) is rotated, the claim only requires that the rotatable portion be rotatable relative to the radiation source and the detector. In this case since there is nothing to prevent the rotation, the portion 3 is rotatable, and it would be inherent that the laser radiation is controlled by initially aligning the portion (3) in the general direction of the target (2).

In addition, at the time of the invention, one of ordinary skill in the art would have relocated the optical elements of 26, 27, 28, 29, 34, 35, and 39 in order to reduce the chances of misalignment between said elements and the mirror 22. It has been held that the mere relocation of essential working parts only require routine skill in the art. In re Japiske, 86 USPQ 70.

With respect to claims 2 and 3, please see fibers 30, 31, 33, 36, coupler 3, 28, 27.

The use of "coupler" does not specify whether the coupler is a physical coupler, indirectly mounted on a common platform, or optically coupled.

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With respect to claim 4, the orientations corresponding to the remote target are determined.

With respect to claim 5, Gelbart does not expressly show multiple lasers to produce the multiple beams. Official Notice is taken that it is well known to use multiple lasers to produce multiple beams in order to use lower power lasers.

With respect to claims 6-8 an, please see last paragraph with respect to claim 1.

With respect to claim 9, please see lens 26.

With respect to claim 10, please see retroreflector 5.

With respect to claim 11, please see Figure 1 where the positions are known for X_{1-5} , Y_{1-5}

With respect to claim 12, please see 39.

With respect to claim 13-15, please see motors 25 and 23. Official Notice is taken that encoders are well known in the art, and at the time of the invention, one of ordinary skill in the art would have used an encoder in order to control the rotation of the mirrors 23 and 25 to the desired amount of rotation.

With respect to claim 16-18, please see column 1.

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With respect to claim 19 and 20, these functions would have been performed manually and to automate a formerly manual function automatically only involves routine skill in the art and at the time of the invention, one of ordinary skill in the art would have used cameras in order to reduce the amount of manual work.

Response to Arguments

3. Applicant's arguments filed 10/23/08 have been fully considered but they are not persuasive.
4. Applicant argues that Gelbart does not show an emission direction of the laser radiation is controlled according to the rotation of the rotatable portion. In response to this argument, the Examiner submits that the claimed recitation does not have patentable weight and even if given patentable weight, Gelbart meets the limitation.

The recitation "wherein an emission direction of the laser radiation is controlled according to the rotation of the rotatable portion" does not have patentable weight in a claim drawn to structure. The limitation does not recite structure but rather recites function and/or intended use.

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In order functional recitation to be given patentable weight without reciting supporting structure, the function recitation must be expressed as a “means for” performing the specified function, as set forth in 35 U.S.C. 112, 6th paragraph, and must be supported by specification of sufficient structure to warrant the presence of the functional language. In re Fuller, 1929 C.C. 172; 388 O.G. 279.

The functional recitation in the claim does not patentably distinguish if the function is not supported by sufficient structure to distinguish from the structure of the prior art. If the prior art shows the same claimed structure, the prior art is capable of performing the function. If the prior art shows the same claimed structure, but is incapable of performing the function, then the claim does not recite sufficient structure to support the functional recitation.

In addition, M.P.E.P. 2114 [R-1] states:

2114 [R-1] Apparatus and Article Claims - Functional Language

**APPARATUS CLAIMS MUST BE STRUCTURALLY DISTINGUISHABLE FROM
THE PRIOR ART**

While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). “[A]pparatus claims cover what a device is, not what a device does.” Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original).

5. The claim fails to recite sufficient structure to support the function. The claim does not recite any structure different from Gelbart that performs the function of controlling rotation of the rotatable portion, nor does the claim recite any structure of the rotatable portion. In addition, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed (i.e. controlling the emission direction by rotation) does not differentiate the claimed apparatus from the prior art apparatus, thus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987).

6. Even if the recitation was given patentable weight, Gelbart meets the limitation. The recitation, "wherein an emission direction of the laser radiation is controlled according to the rotation of the rotatable portion" only requires that a rotation of the rotatable portion controls the emission direction of the laser. In this instance any rotation of the rotatable portion of Gelbart would affect (i.e. control) the emission direction of the laser. The portion (3) is not randomly mounted. Otherwise the beam may face in the opposite direction from where the target may be. It has to be mounted by rotating and moving the portion such that the laser beam will reach, and as such the rotation will affect the direction in which the laser is emitted. The examiner respectfully disagrees that there is no "general direction of the target" It would not make sense to just randomly mount the

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portion (3) on the wall in any orientation or else the laser could be pointed directly on the wall in which the portion (3) is mounted. Since the portion (3) is not randomly mounted but rather mounted so that it can emit the laser beam toward the target, the portion (3) is aligned.

7. With regards to Applicant's that it is the mirrors 21 and 22 of Gelbart that control the emission direction of the laser radiation, the examiner is aware the operational difference between the present invention and the system of Gelbart, however the claims do not differentiate from Gelbart as discussed in the rejection above.

8. Applicant argues that the emission end of the optical fiber system is not disposed on the mirrors 21 and 22. This is persuasive and the examiner withdraws this ground of rejection. However the examiner still submits that the emission end of the optical fiber is disposed on portion (3) which is "rotatable."

9. Applicant argues that the rigid structure can be rotated by with respect to a stationary base by motors; however, it is noted that the motors upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

2.

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hwa S. Andrew Lee whose telephone number is 571-272-2419. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur R. Chowdhury can be reached on 571-272-2800.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.